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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/431,581	11/01/1999	HENDRIKUS J. GRUTTER	PHN-17159	8896

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EXAMINER

HA, YVONNE QUY M

ART UNIT

PAPER NUMBER

2697

DATE MAILED: 04/09/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/431,581

Applicant(s)

GRUTTER, HENDRIKUS J.

Examiner

Yvonne Q. Ha

Art Unit

2697

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 28 January 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3,5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION***Drawings***

The drawing correction of figure 4, submitted on 01/28/03, has been approved by the draftsman.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tezuka, (US Patent 6,331,989) in view of Washington et al. (US Patent 5,920,572).

Referring to claims 1, 8-11, the Tezuka discloses a multiplexer (block 1 of figure 1) for transmitting a plurality of digital signals having different frame lengths and bit synchronized at the same signal rate (bits/sec) upon multiplexing the signals in a predetermined order, and a demultiplexer for demultiplexing a received multiplexed signal and detecting a predetermined sync pattern ^(auxiliary signal) from each digital signal (col.2, lines 52-59; figures 1-3). The Tezuka also discloses the four different types of signals for multiplexing and demultiplexing including variable length type signals (col. 3, lines 23-24). Tezuka does not expressly disclose a multiplexer is arranged for introducing ^{an auxiliary signal with a variable} a length field ^{ind} indicating the length of a source signal, which depends on the aggregate rate of the source signal. However, Washington discloses the flags field can have a fixed or dynamic meaning depending on the instructions provided to the processor (col. 17, lines 12-14) and that packet data can be of variable length and may be divided over several transport packets based on whether the data is important or unrelated (col. 17, lines 19-23). Therefore, it

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would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the multiplex/demultiplexing teaching of the Tezuka's and Washington's to associate length of variable auxiliary signal (i.e. flag/control information) is dependent on aggregate rate of source signal because the total bandwidth between the systems (i.e. output of multiplexer into the demultiplexer) must have sufficient bandwidth to accommodate the instantaneous system inputs (varied flag field, or with/without loads for transport).

3. Claims 2-4, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tezuka, (US Patent 6,331,989) in view of Washington et al. (US Patent 5,920,572) and in further view of Park et al. (US Patent 6,529,528).

Referring to claim 2, Tezuka, and Washington disclose all aspects of the claimed inventions but failed to teach auxiliary signal. However, Park teaches auxiliary signal is a predetermine symbol sequence (col. 2, lines 41-46; figure 2b of Park). Therefore, it would have been obvious to a person of ordinary skill in the art to predetermine auxiliary signal to increase error-resiliency.

Referring to claims 3 and 12, Tezuka, and Washington disclose all aspects of the claimed inventions but failed to teach auxiliary signal assumes zero value. However, Park teaches the length of variable auxiliary signal can assume value zero if the data field comprises a predefined length (col.4, lines 26-27). Therefore, it would have been obvious to a person of ordinary skill in the art to have the auxiliary signal as zero value because the flag values contain bit pattern.

Referring to claim 4, Tezuka, and Washington disclose all aspects of the claimed invention and failed to teach multiplexing frame and converting sync code. However, Park teaches the multiplexing the data of a predetermined frame and converting an 8-bit sync code

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forming a flag (col. 3, lines 34-36 of Park). Therefore, it would have been obvious to a person of ordinary skill in the art to extract the auxiliary signal out of the main signal because auxiliary signal contains control information referenced to the frame.

4. Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tezuka (US Patent 6,331,989), Washington et al. (US Patent 5,920,572) and in view Kurobe et al., (US Patent 6,233,251).

Referring to claim 5, the Tezuka, and Washington disclose all the aspects of the claimed invention but failed to disclose using the length field to extract the source signal. However, the Kurobe et al. reference disclosed the multiplex frame is a fixed length including a header and a fixed-length field (col. 4, lines 57-65 of Kurobe). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the length field in the multiplex frame of the Tezuka's reference to carry the source signal across the transmission link and to extract the signal from the frame at the demultiplexer, thereby accurately recovering the source information.

Referring to claims 6 and 7, Tezuka, and Washington disclose all the aspects of the claimed invention, and further taught that the method of multiplexing and demultiplexing the variable length data packet signal type by performing the bit multiplexing and demultiplexing respectively. Tezuka, and Washington failed to disclose the length field definition with a first number of symbols. However, the Kurobe discloses the multiplex frame includes a fixed length field with two variable-length slots. The length of the first variable-length slot is a predetermined fixed length when data to be stored exists and is zero with no data to be stored. The length of the second variable-length slot is increase or decreased depending on the first variable-length slot. Therefore, it would have been obvious to a person of ordinary skill in the

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art at the time the invention was made to define the comparison logic of 1 or greater than 1 between the first number of symbol and the second number of symbol because it is conventional in the length field with variable length.

Response to Arguments

5. Applicant's arguments with respect to claims 1-3, 8-12 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Arimilli et al. (US Patent 5,682,386) discloses data/voice/fax compression multiplexer

- Arimilli (US Patent 6,275,502) discloses advanced priority statistical multiplexer

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yvonne Q. Ha whose telephone number is 703-305-8392. The examiner can normally be reached on Monday-Friday 7a.m.-4p.m. Eastern.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on 703-305-4798. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3988 for regular communications and 703-305-9051 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

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YQH
April 1, 2003



RICKY NGO
PRIMARY EXAMINER